REVIEW.

ART. XV. *Pathological and Practical Researches on the Diseases of the Brain and the Spinal Cord.* By JOHN ABERCROMBIE, M. D. Fellow of the Royal College of Physicians of Edinburgh, &c. Edinburgh, 1828. One volume, octavo.

THIS work is a valuable contribution to our means of information on the pathology and symptomatology of diseases affecting the central portion of the nervous system. It is executed with manifest care, on a well arranged and well digested plan, and from the predominance of personal dissections and observations, is fairly entitled to the reputation of originality. It confirms and illustrates the reports of the continental pathologists, MM. LALLEMAND, MARTINET, ROSTAN, GENDRIN, BAYLE, &c.

It is divided into four parts, each of which is subdivided into sections, and amplified by an appropriate appendix. The first part treats of inflammatory affections of the brain; part the second, of apoplectic affections; part the third, of organic diseases of the brain; and part the fourth, of the diseases of the spinal cord and its membranes.

The first part, or that which describes the inflammatory affections of the encephalon, has the first section applied to their outline or general characters, as marked by the abnormal sensibility of the head, by the motions and perceptibility of the eye, by the state of hearing, of speech, of intelligence, of the circulation, of the locomotive powers, of the secretions, and especially of that of the urine. The author seems to be well aware of their great variety in grade, of the unsettled character of their symptoms, and admits that it is impossible to define them all in one general account.

Having stated facts of sufficient notoriety concerning the several parts of the encephalon, which become seats of disease, as its three membranes and the substance itself; he also sketches out the principal pathological features observable after death, to wit, serous effusion, false membrane, suppuration, ramollissement, (softening,) and some others. In regard to serous effusion or hydrocephalus, he remarks the erroneous opinion which had generally crept into medicine, but is now almost as extensively exploded; of the symptoms being caused exclusively by the compression of the brain, and not by the state of irritation, in which the organ is placed. Ramollissement, he says, consists in a part of the cerebral substance being broken down into a soft pulpy mass, retaining its natural colour, but having lost its cohesion and consistence. It differs entirely from suppuration in having neither the colour nor the smell of pus, and in the pure milky whiteness of the brain being retained. We agree with Dr. A. in regard to the most common seats of it, being the fornix, the septum lucidum, and the corpus callosum, but especially the two first. Long before this mode of disorganization had attracted the notice of pathologists as one of frequent occurrence, we had been struck with its prevalence, especially in dropsical subjects, and had been taught by repeated experience to avoid them when a healthy brain was required for class demonstration.

The question is as yet undecided whether this state of softening is one of the terminations of inflammation; or as Mr. ROSTAN is more disposed to believe a peculiar and primary affection. Dr. ABERCROMBIE thinks that each opinion is right in its place, and that the adoption of both is sustained by the facts adduced. In the very numerous autopsies of Mr. Rostan and his friends, a majority of the patients were more than sixty years of age, and the softening was chiefly observed in the external parts of the brain. Dr. A.'s patients, on the contrary, were of a more mixed kind in regard to age, were principally young persons and children, suffering from symptoms of acute hydrocephalus, and on dissection exhibited unequivocal inflammation, in the deep redness and suppuration of the cerebral matter surrounding the softened spot, and in the deposition of false membrane upon the nearest superfices. He says that "we may even observe in the different parts of the same diseased mass, one part in the state of ramollissement, another forming an abscess, while a third retains the characters of active inflammation." Dr. A. is, upon the whole, disposed to consider ramollissement as a gangrene of the brain; and that it was produced in the cases of Rostan by a failure in the circulation, but in his own cases by inflammation.

Dr. A. believes that idiopathic inflammation of the dura mater is of very rare occurrence. The only case he has seen, was in a young lady of twenty-two years, and terminated on the fifteenth day. It presented on dissection a purulent focus, of the size of a crown piece, between the os frontis and the dura mater; this spot of the latter was black, ulcerated on both surfaces, but not perforated, and was here and there thickened. The superior semicircumference of the right hemisphere was coated with thick purulent matter, and had beneath the arachnoidea an extensive adventitious membrane. The substance of the hemisphere was sound, excepting a dark livid colour of its surface.

The following is an instructive account of the dissection of a gentleman aged twenty, who died on the tenth day of intense earache; or in other words, an acute inflammation of the temporal bone, attended with cerebral symptoms. There was some effusion under the arachnoid of both hemispheres, and much of it in the ventricles; extensive ramollissement of the parietes of the lateral ventricles. The right temporal bone was carious, dark-coloured, very soft, and when cut discharged pus from its cavities. The adjoining dura mater was thickened and inflamed, and had externally a deposite of thick purulent matter behind the petrous bone. The tentorium was inflamed, and there was almost universal arachnitis of the cerebellum, extending into the fourth ventricle, and manifesting itself by a coating of lymph and thick flocculi of purulent matter.

The following dissection presents us with a strongly evolved arachnitis, (hydrocephalus internus,) of the ventricles. A child aged ten months, had fever, starting, vomiting, white tongue and costiveness for a week, when the symptoms abated, except the vomiting; but the pulse continued frequent. At the end of ten days the pulse became rapid, there was squinting and blindness, and in three days more death ensued after a convulsion. The autopsy exhibited the ventricles distended with six ounces of turbid fluid, with flakes of lymph floating in it. The lining membrane was thickened, easily separated by dissection, and was coated thickly with coagulating lymph. The septum was thickened, and the pineal gland distended with a greenish fluid. The arachnoid on the posterior part of the cerebellum to the extent of a crown piece, was thickened, covered by false membrane, and had pus beneath it.

Dr. A. having detailed several other cases of arachnitis in young adults and in children, some of which were attended with thickening, purulent, and fibrinous secretion, and others with only an effusion of serum, then draws the following inferences:—

1. "That in ordinary cases of hydrocephalus, the coma and other symptoms attending it, are not to be considered as the direct effect of the effusion, but of that morbid condition of the brain of which the effusion is the consequence.

2. "That we have no certain mark which we can rely upon as indicating the presence of effusion in the brain: slowness of the pulse, followed by frequency, squinting, double vision, dilated pupil, paralytic symptoms, and perfect coma, we have seen exist without any effusion.

3. "That all these symptoms may exist in connexion with a state of the brain, which is active, or simply inflammatory, while the disease is the subject of active treatment, and while by such treatment adopted with decision at an early period, we have the prospect of arresting its progress in a considerable proportion of cases. In all of them, the period for active practice is short, the

irremediable mischief being probably done at an early period of the disease."
—Page 149.

In the section, (page 150,) treating of the causes of the inflammatory affections of the brain, he makes the usual allegations concerning eruptive fevers; suppressed evacuations, especially the menses; injuries; phthisis pulmonalis, and so on. The following is an interesting narrative of its connexion with ischuria ureteralis. A gentleman aged seventy, became incapable of passing his urine, and on the introduction of a catheter into the bladder, the latter was found empty —he continued in this state with slight uneasiness in his back for six days. On the seventh his thoughts became confused, and his speech indistinct; on the ninth he was comatose; and on the thirteenth he died. On dissection the bladder was found empty; the ureters were completely obstructed by calculi near the kidnies, and the latter were distended with urine. Extensive effusion was found in the ventricles of the brain.

The treatment recommended by Dr. Abercrombie for inflammatory affections of the brain, is blood-letting, general and topical, active purgatives, and cold applications to the head. He is doubtful of the advantages of early blistering, and at any rate prefers it upon the back of the head and neck; when the disease is advanced he considers this remedy very appropriate. He doubts the value of the mercurial practice which is so highly recommended by weighty authority. Active purging with Croton oil he considers a paramount remedy, though bleeding and cold applications are not to be neglected. The most effectual mode of applying the latter he considers to be a stream of cold water directed for a suitable time against the crown of the head; under its operation he has seen a very strong man, reduced in a very few minutes, from the highest state of maniacal excitement and strength, into one approaching asphyxia.

The following case of extensive loss of cerebral substance from tubercular disease, will be found worthy of perusal. A young lady of eighteen years was attacked with paralysis of the left side of the face; the affection disappeared in a few days, but afterwards returned and subsided again. Frequent attacks of intermittent vertigo lasting for a day or two followed and prevailed during a year; in the intervals her health was perfect. At the expiration of this time, she, while at dinner, fell from her chair, completely insensible, but without convulsion, and remained so two hours. These paroxysms of giddiness were repeated, with head-ache, first in intervals of a few months, but they became approximated towards the end of two years; so that for a fortnight she would have them every day, and then there would be a suspension for another fortnight. In this progress amaurosis showed itself. The lady in the intervals of paroxysms was so well, that she underwent the solemnity of marriage two months before her death. The evening before the latter, her general health and spirits were such that she spent it cheerfully with a party in the house of a friend, and returned home about eleven o'clock. She died during that night unknown to any one.

Dissection.—"The brain externally appeared healthy, but when a thin section was cut from the upper part of the left hemisphere, a cavity was exposed through which a probe passed in every direction without any resistance, through nearly the whole extent of the hemisphere. This, upon farther examination, was found to arise from the whole hemisphere being in such a remarkable state of decomposition or softening, that it formed one great cyst full of soft pultaceous matter, inclosed in a very thin covering, formed by the healthy cerebral matter on the surface. The healthy portion forming this covering, in many places did not exceed a quarter of an inch in thickness; and at the thickest parts, which were on the upper surface of the brain, did not exceed one-half or three-fourths of an inch. The contained matter was a thin, soft pulp, mixed with portions of a pellucid, albuminous substance, which coagulated when they were thrown into boiling water. This matter was chiefly in irregular masses, but there were some firmer portions of it which could be separated in the form of distinct round nodules, resembling hydatids. On examination, however, they were found not to be hydatids, but uniform masses of the albuminous matter in a more concrete state. On the external part of the hemisphere, lying over the petrous portion of the temporal bone, there was a tumour the size of a pigeon's egg, adhering firmly to the inner surface of the dura mater. Externally it was irregular, as if formed of a congeries of smaller tumours; internally, it was composed partly of a reddish, soft, flesh-coloured matter, and partly of a semi-pellucid albuminous substance in nodules of various degrees of firmness. When thrown into boiling water, the whole mass assumed a uniform, opaque, white colour, and a hard, cheesy consistence. The left ventricle was entire; it contained a small quantity of serous fluid, and was separated from the diseased mass by a very thin septum. The right hemisphere was healthy, except on the inner part of the anterior lobe, which was considerably softened. It appeared to every one who witnessed the dissection, that the left hemisphere had been considerably enlarged, and the right diminished in the same proportion, the falx being sensibly pushed towards the right side. The optic nerves seemed softer than natural; the cerebellum was healthy."

Dr. Abercrombie, on the subject of apoplexy, has quoted several interesting cases, with and without any obvious morbid lesion, which have come under the observation of himself and of different writers. The inference seems to be fairly established by him, as it has been done by others, that sometimes very considerable serous effusion, amounting to eight or even sixteen ounces, has prevailed without apoplectic symptoms, while on the contrary, in other cases, no appreciable quantity has been found where these symptoms were equally strong. The question here very naturally arises, whether the serous membrane of the brain, has not like that of the thorax, the same ability of executing absorption for some time after apparent death, and whether the disappointment of finding an effused fluid does not frequently come from the exercise of that faculty. It is worthy of being suggested, that so long as the serous membrane retains its integrity of organization, it may be strongly disposed to execute post mortem absorption. It is well known that the celebrated MASCAGNI[*] asserts his having witnessed its continuance for fifteen, thirty, and even forty-eight hours in the pleura; and from the general identity of structure, we have reason to suppose the arachnoidea capable of a similar faculty.

Dr. A. denies the natural existence of the prevalent distinction between the symptoms of sanguineous and of serous apoplexy. He considers that the flushed face and full pulse, said to be the diagnostic of the former, and the pallid countenance and weak pulse of the latter, are common to both, as dissection proves. General analogy will support this position, and we are disposed to think, that cerebral symptoms, in the present state of our knowledge of them, rather manifest the organ affected than the mode of disease. By way of illustration, suppose, in the case of the lungs, a patient with a respiration highly embarrassed; if our investigation of the disease cannot go beyond this single symptom, it is evident that advanced pulmonary consumption, water in the thorax, a tumour compressing the lung, collapse in the latter, and many other conditions, will present an identical appearance. But the actual difference between the brain and the lungs, is that with the stethoscope, expectoration, percussion, and so on, our means of diagnostic for the latter are immeasurably more varied and perfect; and we can trace not only general symptoms, but analyse them into their shades and varieties, dependent upon specific modes of lesion; whereas many of the latter are in the utmost obscurity in affections of the brain, and must remain so till our methods of inquiry are much more advanced and improved.

We cannot, without extending this article beyond due bounds, go much further in our sketch of Dr. A.'s work. We think it a valuable acquisition to the practitioner and pathologist, and recommend strongly its perusal.

W. E. H.

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[*] See Horner's General and Special Anatomy, Vol. II. p. 13.